

## Movement Orientated Training for Kinetic and Cyber Warriors

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April 16 – 18, 2013 | Norfolk, VA | [NSCA.com/TSAC2013](http://NSCA.com/TSAC2013)



Movement Orientated Training for  
Kinetic and Cyber Warriors

By Rob Orr (Bond University: Australia)





## BLUF:

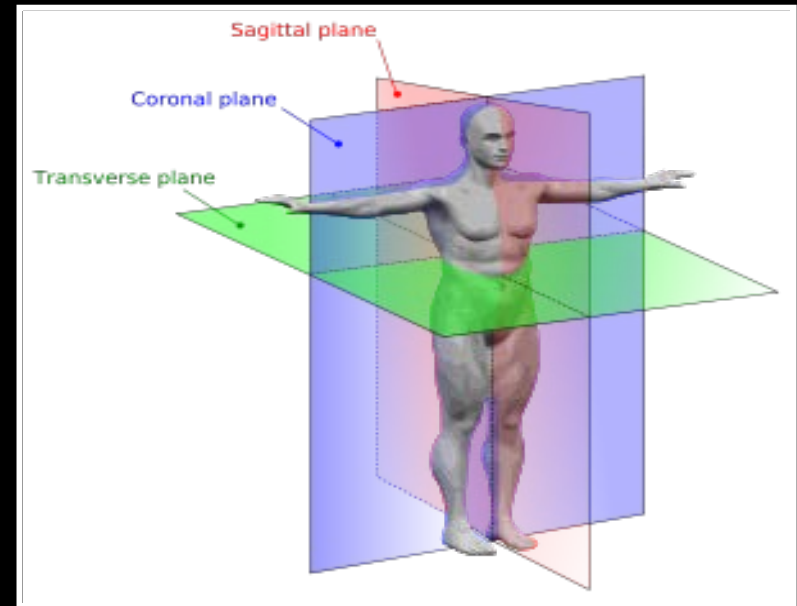
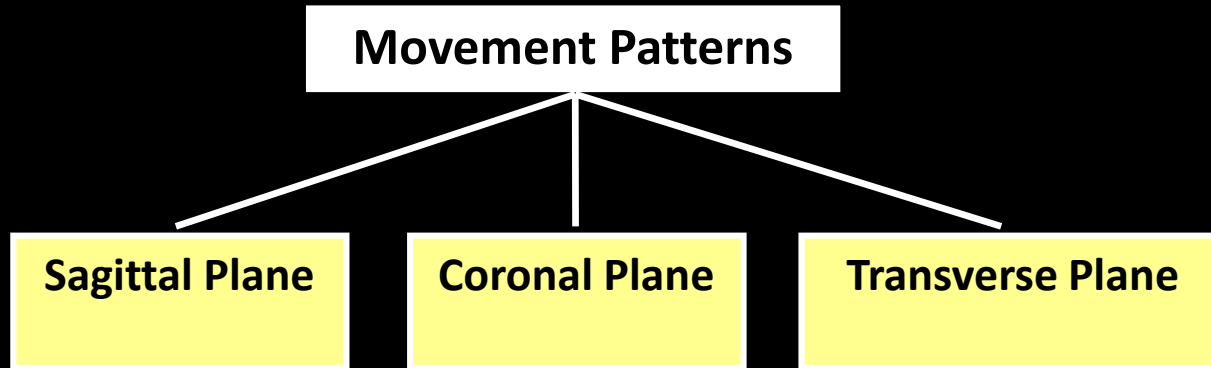
- Movement Orientated Training is a conceptual framework around which many current fitness trends are loosely (and on occasion incorrectly) based.
- MOT can be used to direct the occupational training and re-training of cyber and kinetic warriors

# Movement Orientated Training – Session

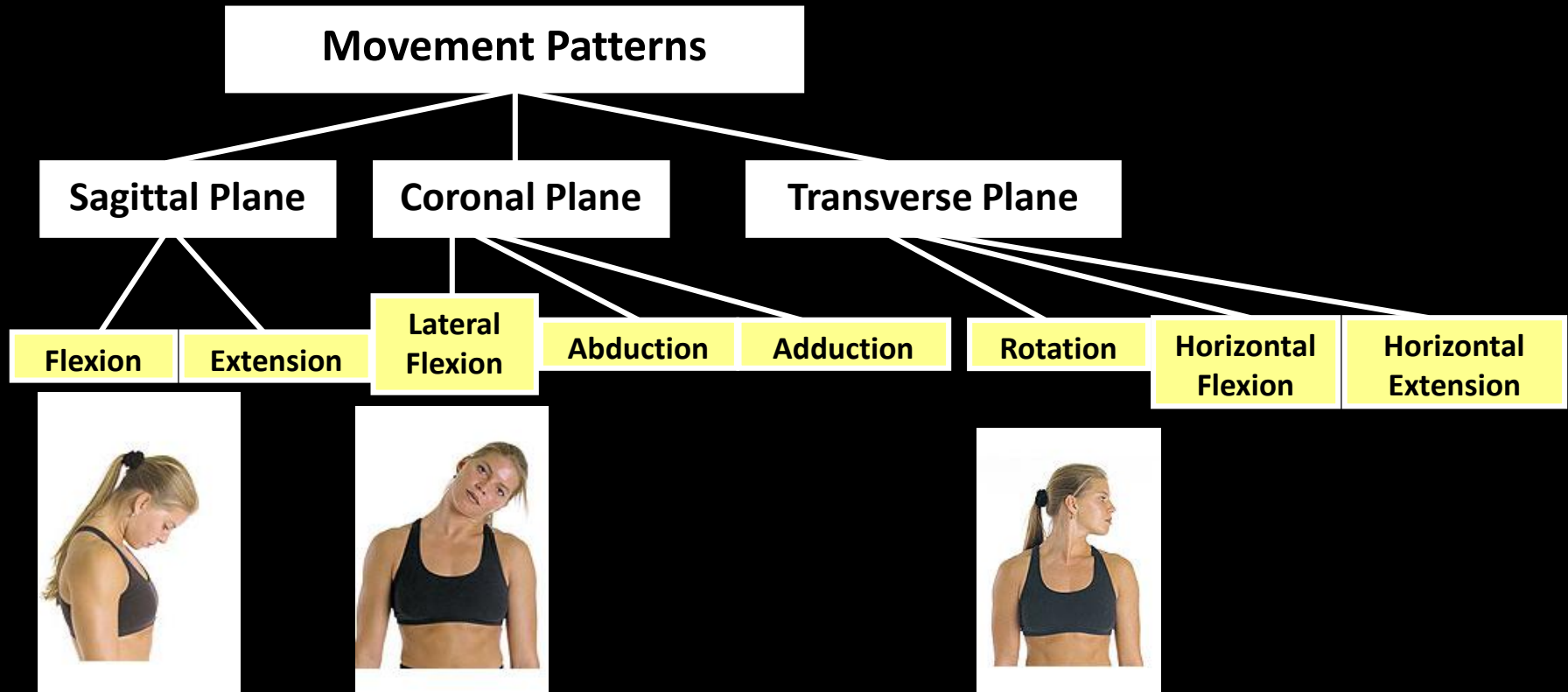
## Outline:

- ✓ Movement Patterns
- ✓ Use or Misuse
- ✓ Factors influencing the movement patterns
- ✓ Implementation of MOT

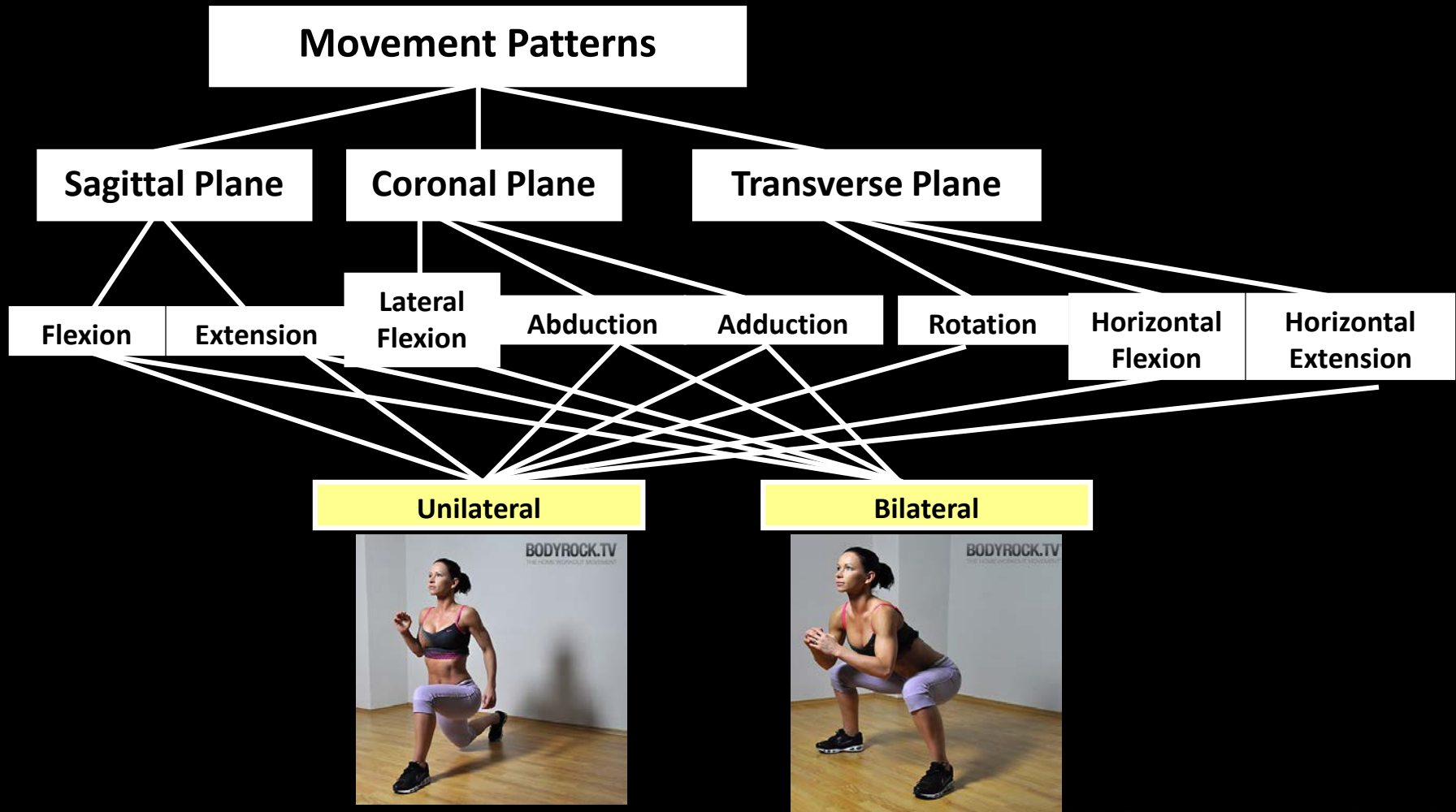
# Movement Patterns



# Movement Patterns




# Movement Patterns





# Movement Patterns

## Personal Training Notation:

- Push 
- Pull 
- Bend 
- Lift 
- Twist 
- Gait\* / KL G / FB



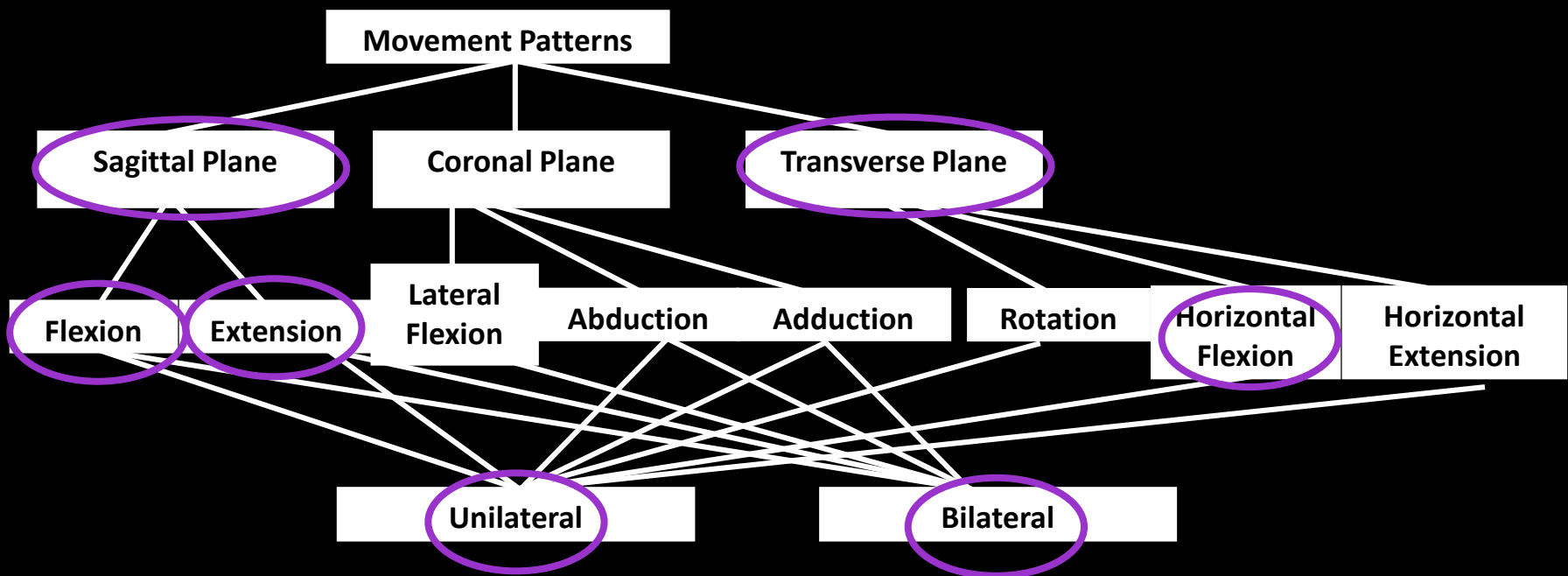
- *Define Functional Training .*





- Functional training: Misunderstood term?

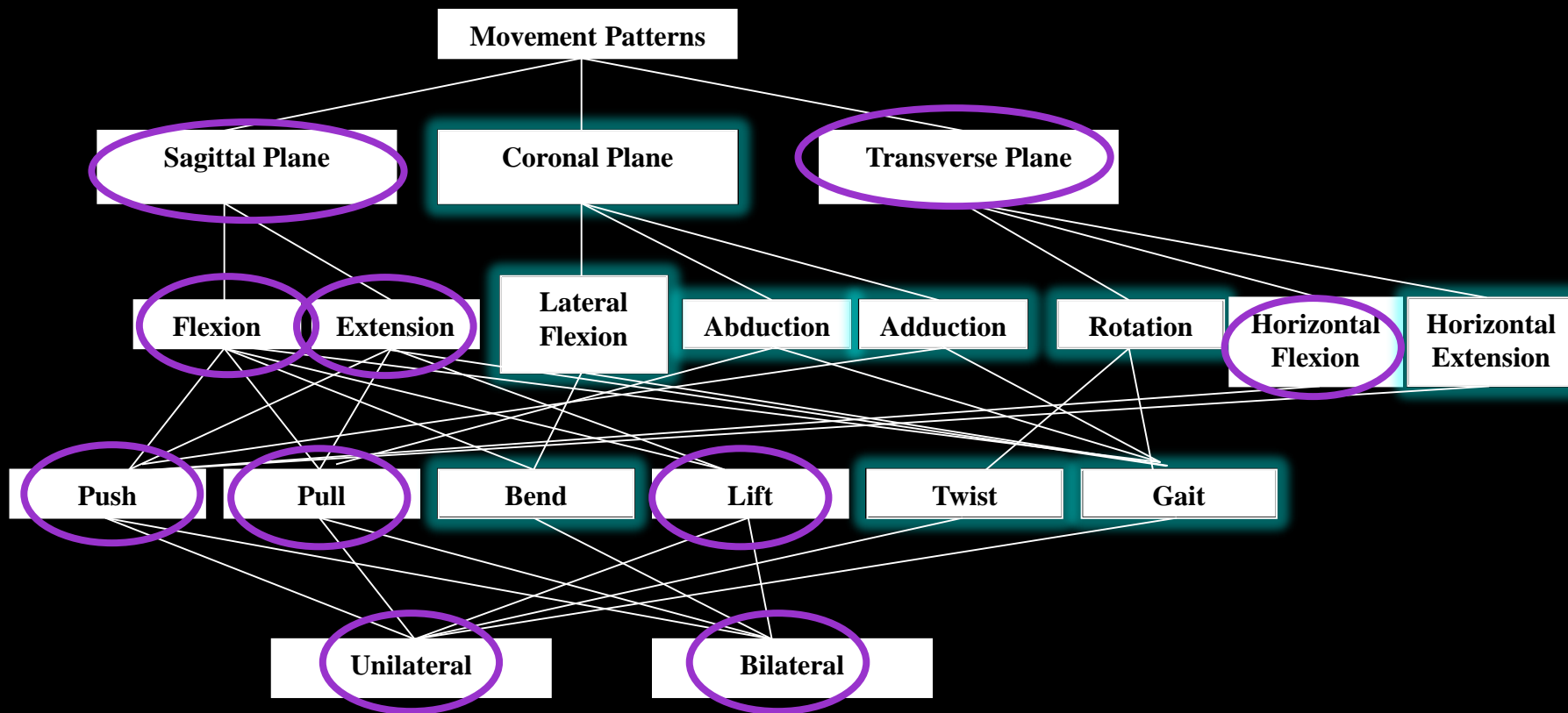








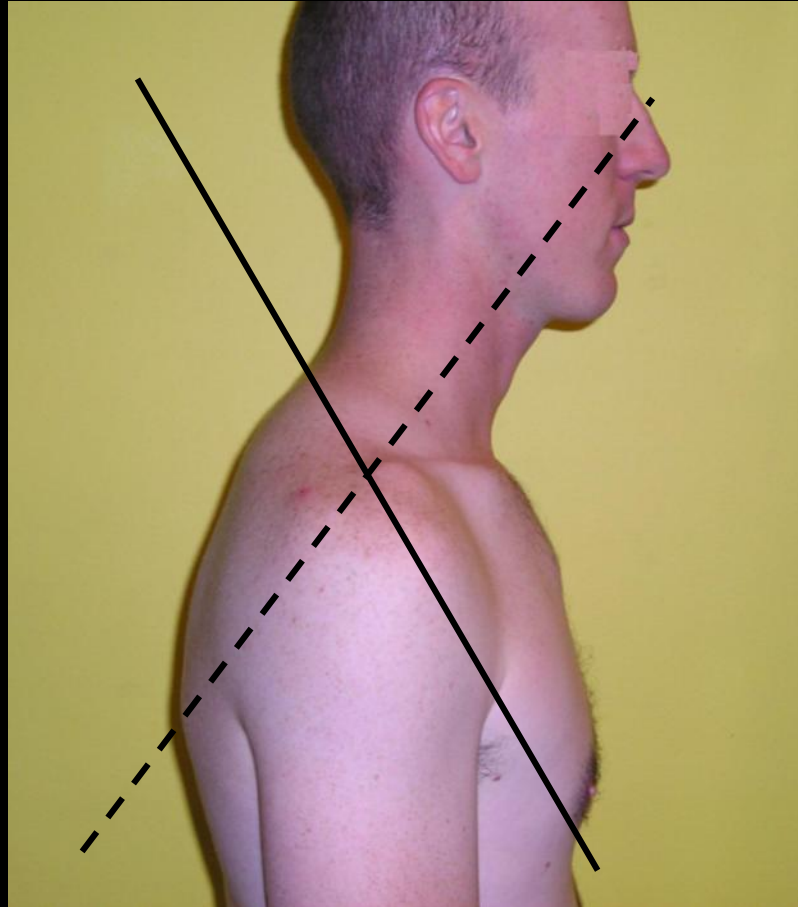
- *What causes overuse injuries?*



## □ Yanda's Upper Cross Syndrome



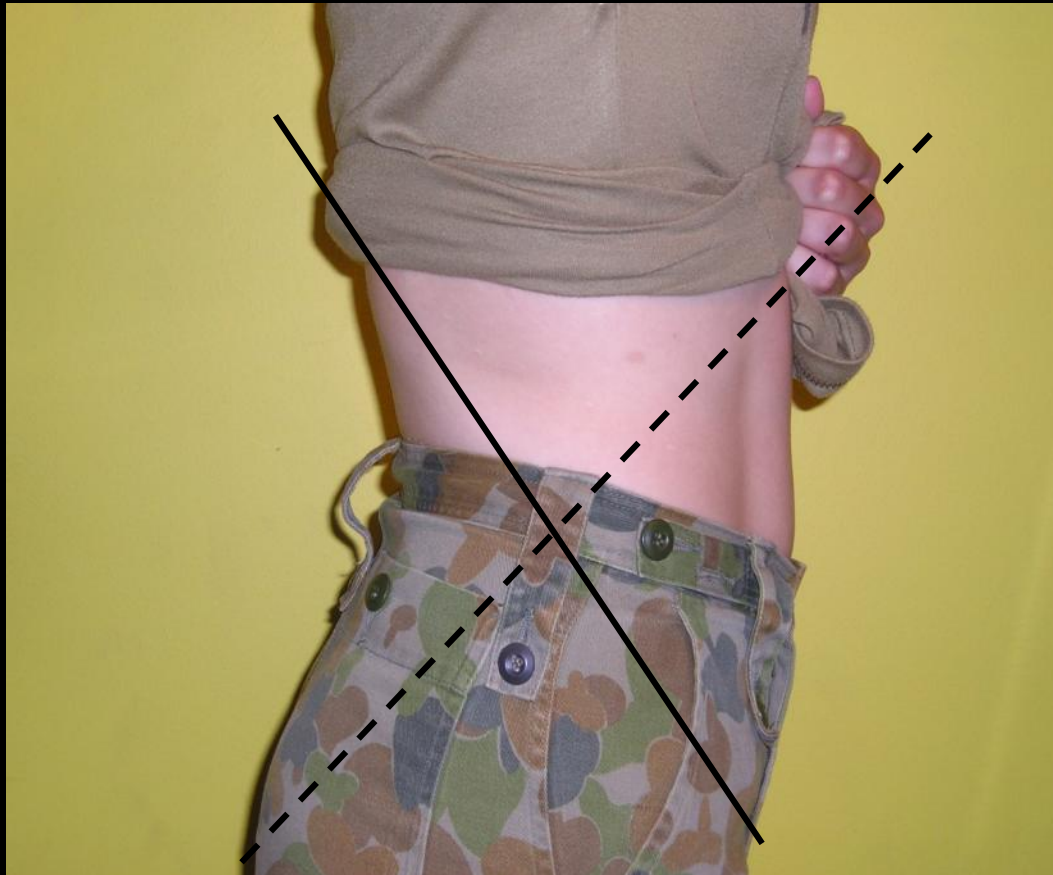
- *What muscles are short and tight and*
- *what muscles are lengthened and weak?*



## □ Yanda's Lower Cross Syndrome

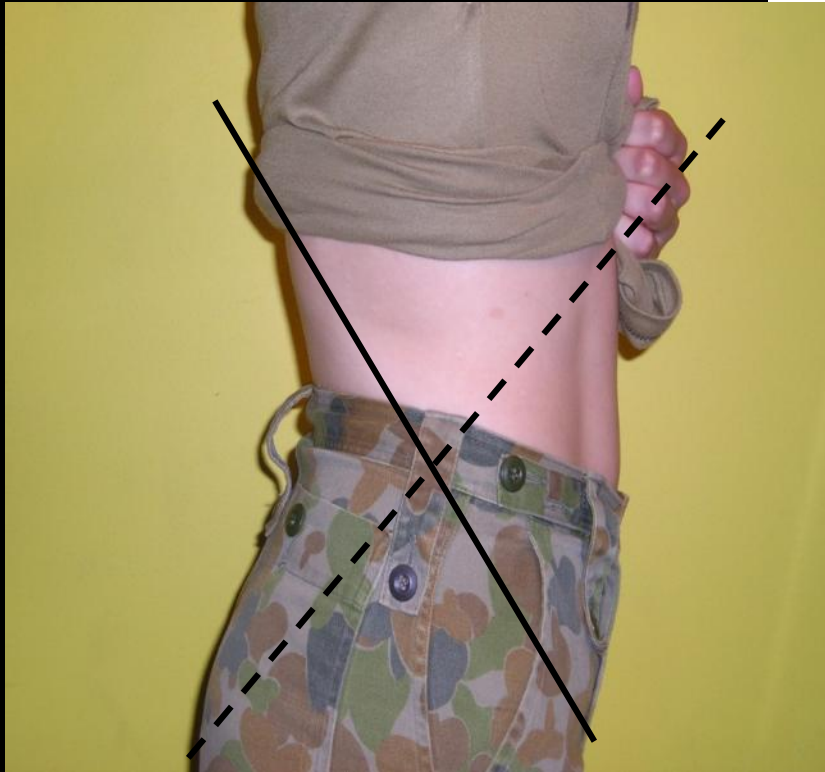


- *Which muscles are short and tight and*
- *Which muscles are lengthened and weak?*

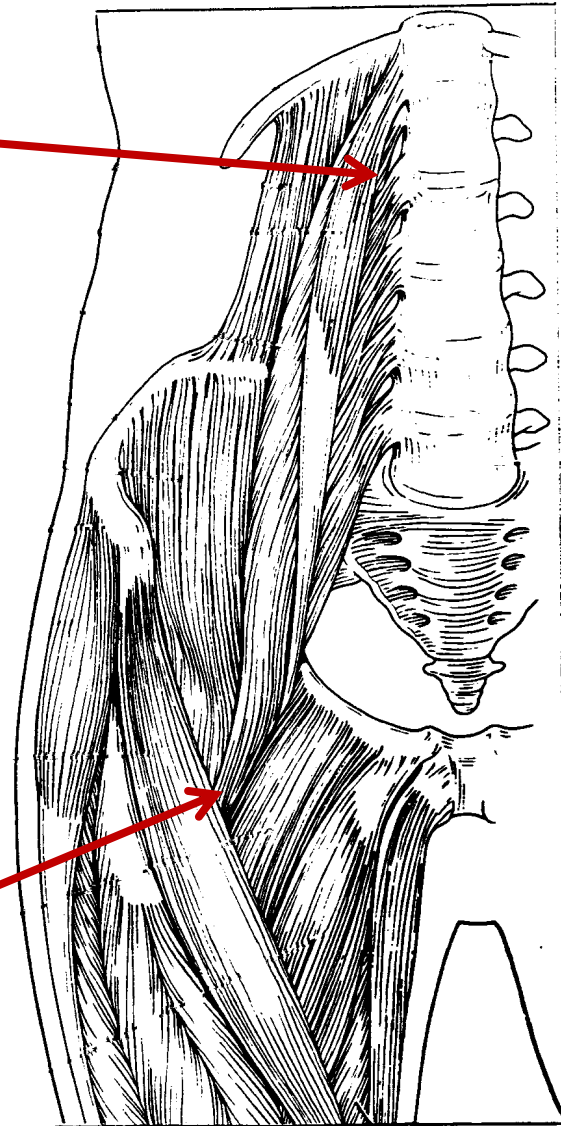




Q



I



- How do we get rid of postural imbalances (muscular approach)?



- *What exercises would we prescribe for tight Pecs?*



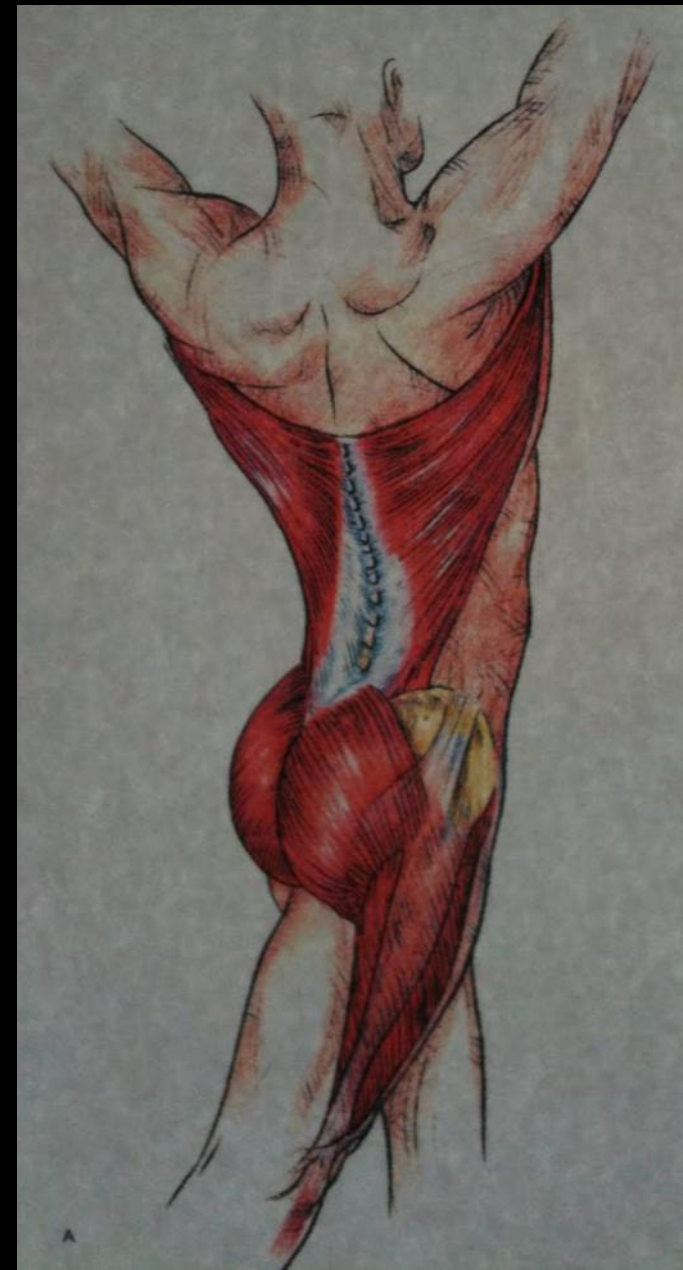
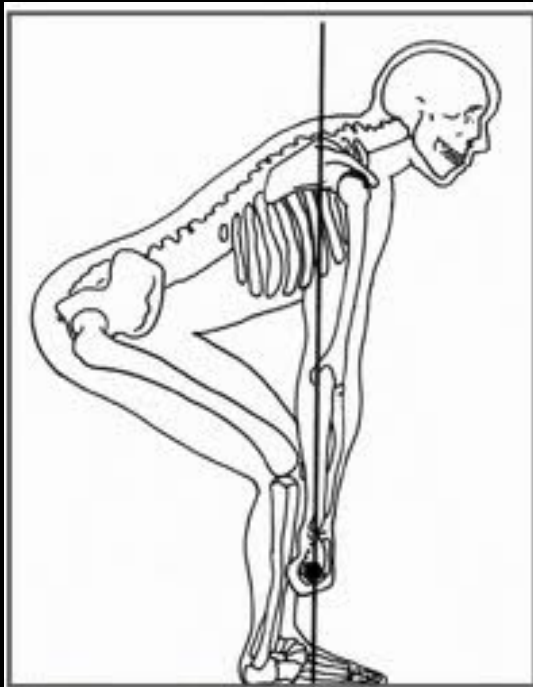
- *What are the actions for the Pec Maj and Lats Dorsi?*

- Lumbar Fascia (LDF)



*What are:*

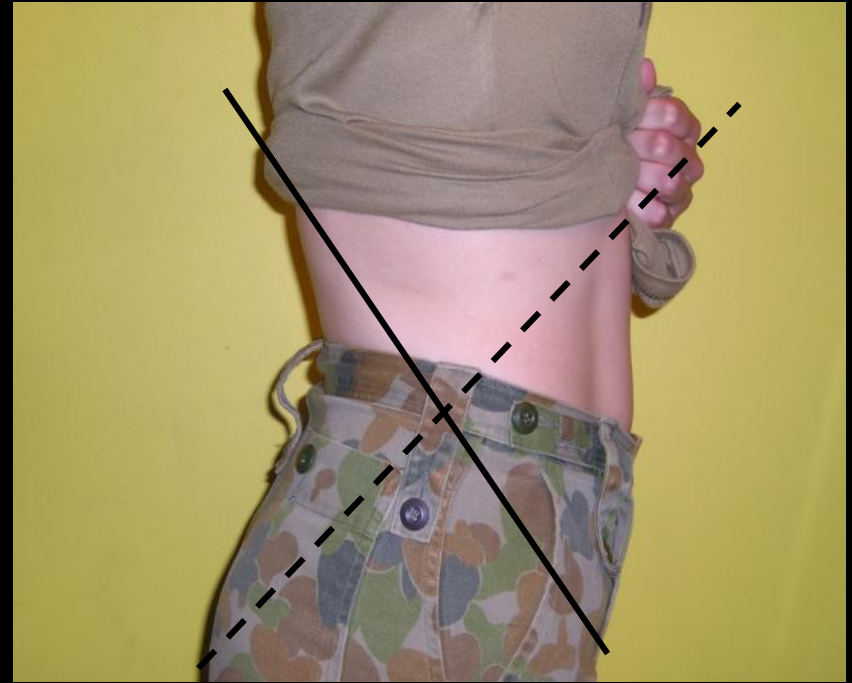
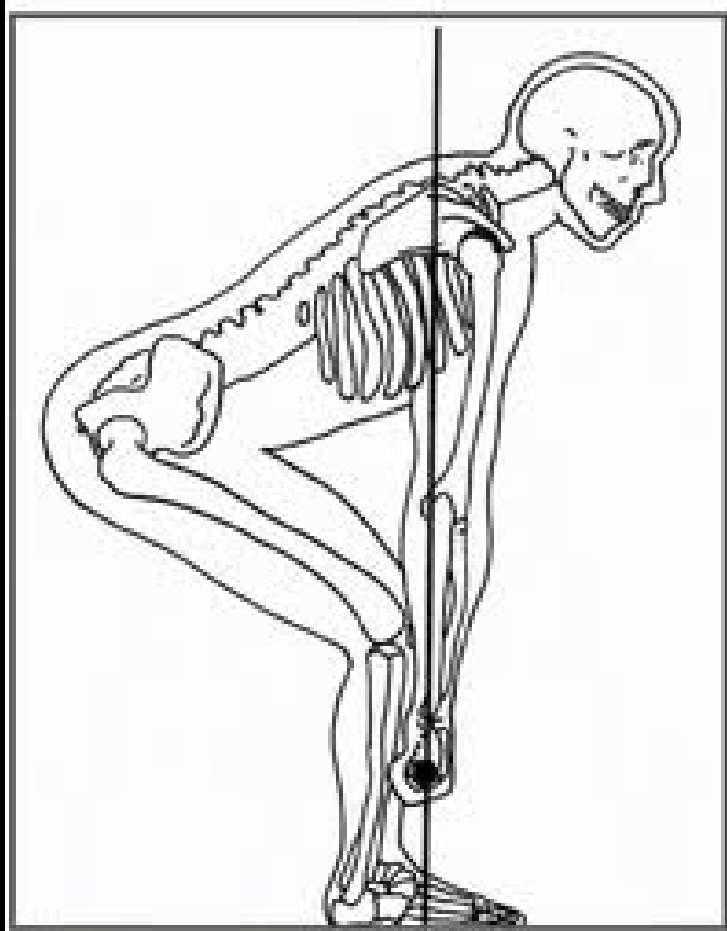
- *Origins of the Lats Dorsi*
- *Origins of the Glute Max*



- Lumbar Fascia (LDF)



*What are the antagonists to the Glute Max?*







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## □ Which exercises?



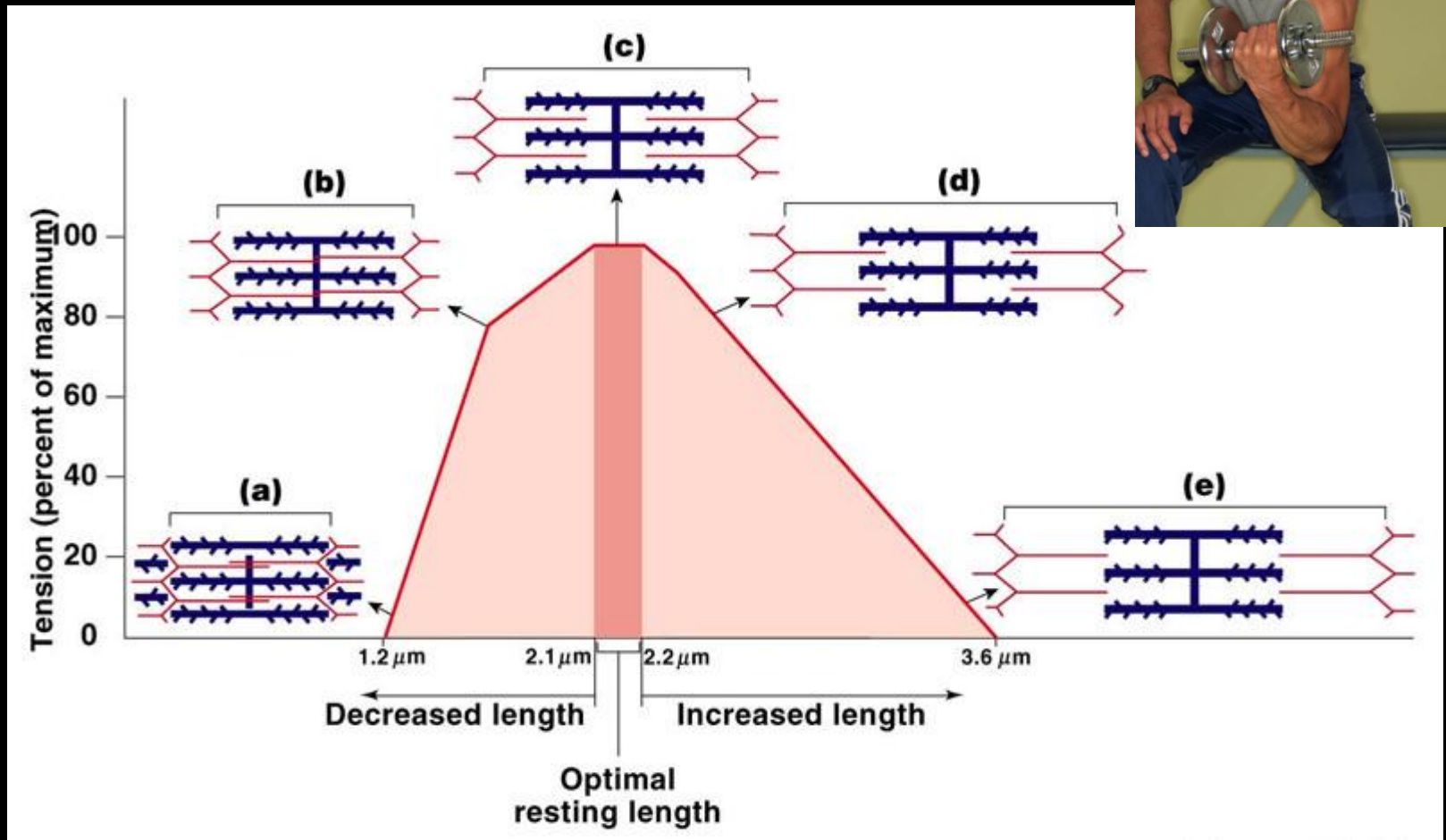




- *What muscles take the major load during this exercise?*



- The Length-Tension Curve





# Cyber vs Kinetic Warriors

- o Nothing to do with intelligence  
(Not a Jocks vs Nerds thing)
- o Cyber – Predominantly low movement requirement
- o Kinetic – Predominantly a high movement requirement

# □ Cyber vs Kinetic Warriors





# ❑ Cyber vs Kinetic Warriors

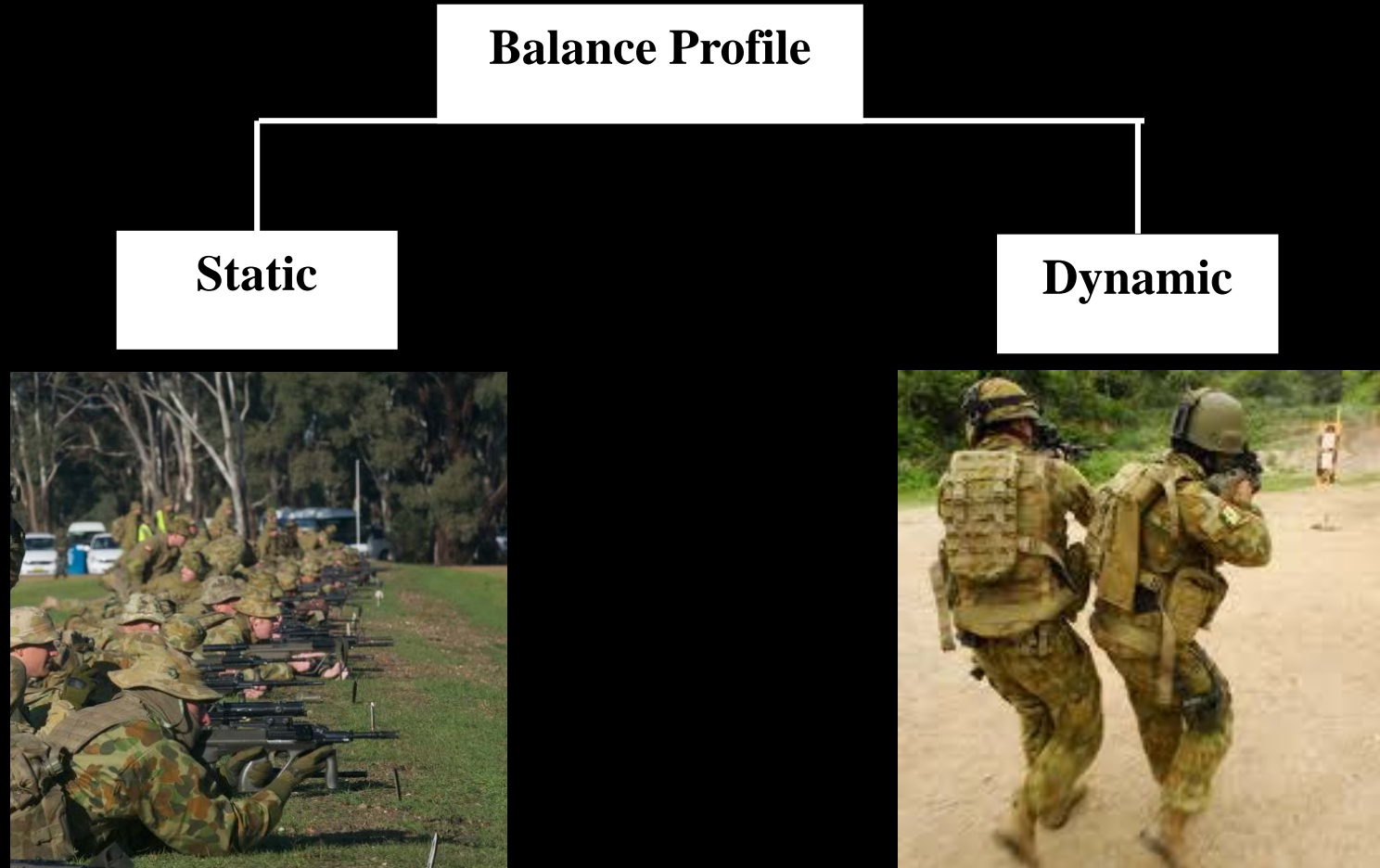


# □ Cyber vs Kinetic Warriors

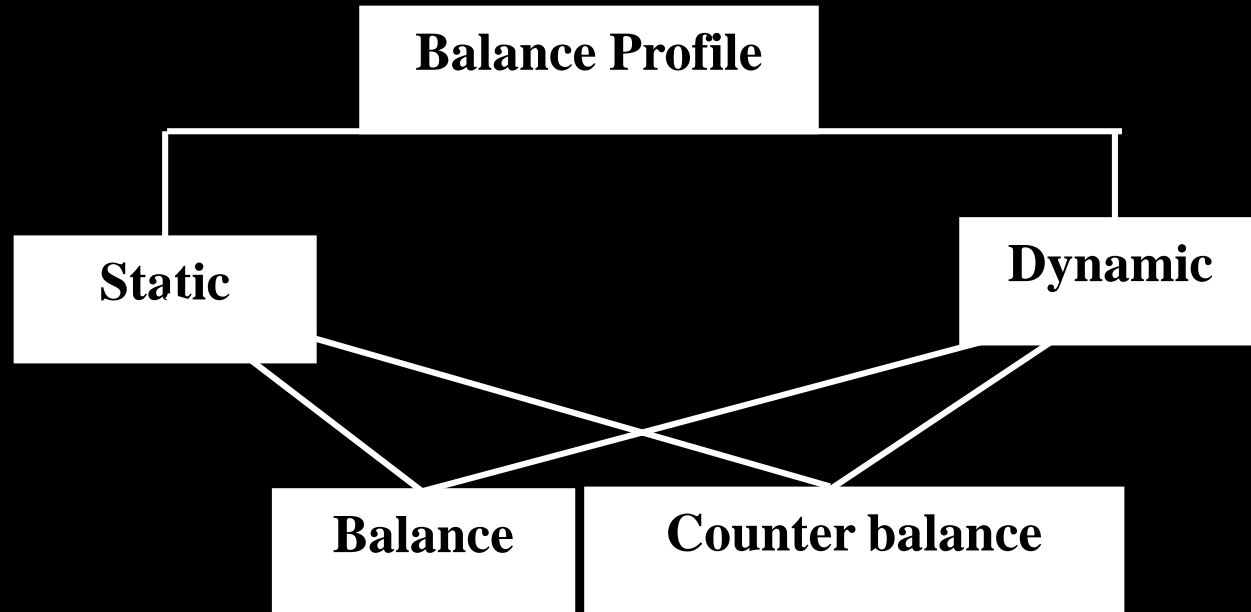




- MOT Design Influencing factors: Balance Profile



- MOT Design Influencing factors: Balance Profile

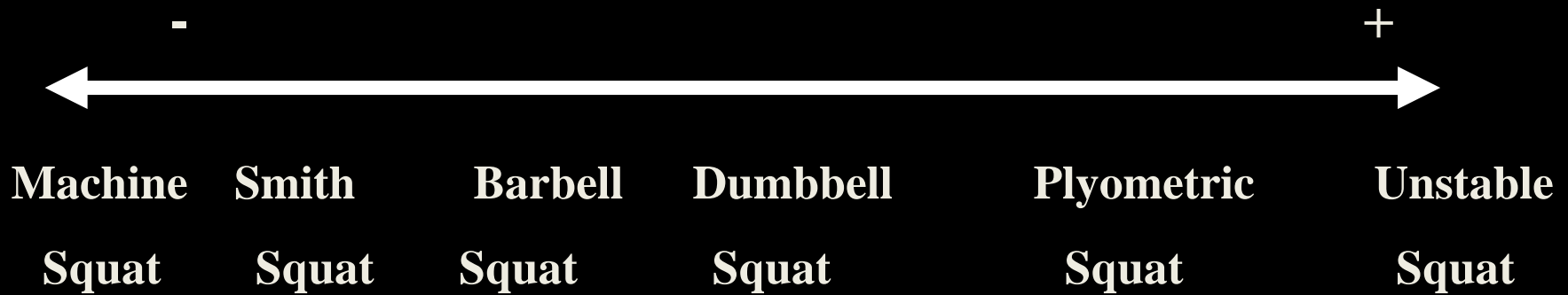


- 
- +
- Isolated Compound Kinetic Link
- Complex Multi - plane





# □ MOT Design Influencing factors: Potential for Movement



WHY? →





# □ MOT Design Influencing factors: Potential for Movement



**Flat Road March**



**Multi gradient, uneven terrain march**



# ❑ MOT Design Influencing factors: Conditioning Profile

## Neuromuscular Conditioning

- Strength
- Endurance
- Hypertrophy
- Power
- Speed
- Agility

## Metabolic Conditioning

- Alactic
- Lactic / Glycolytic
- Oxidative





# □ MOT Implementation – Micro



# MOT Implementation – Micro

## □ General Considerations

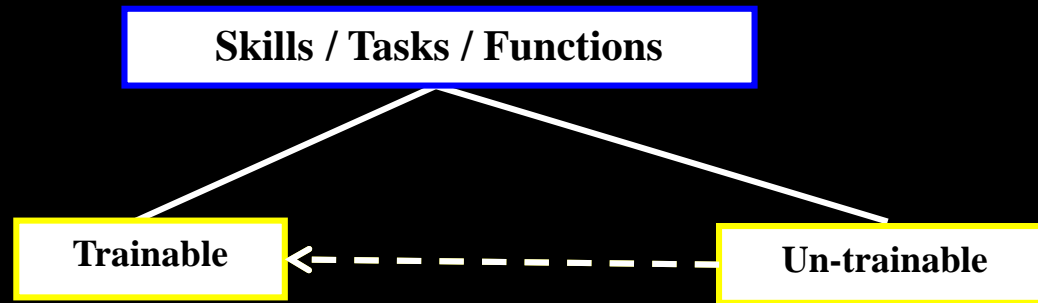
- Aims and needs of client
- Previous training experience
- Injury history
- ADLs
- Other interests (Sports, pastimes, etc)



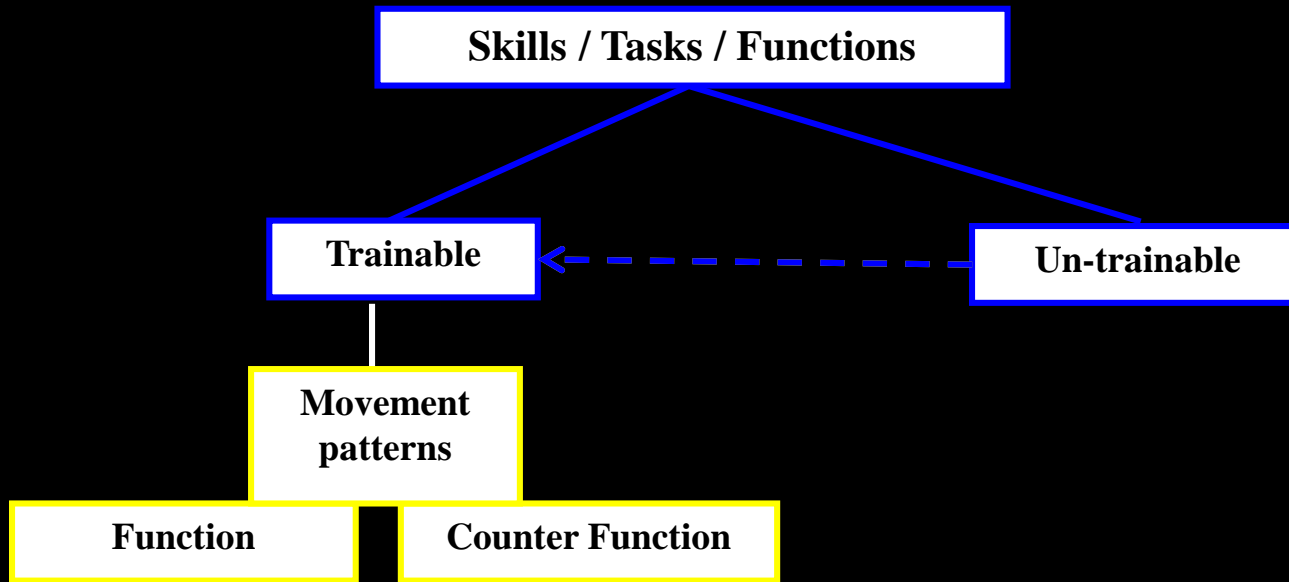
# MOT Implementation – Micro

**Skills / Tasks / Functions**

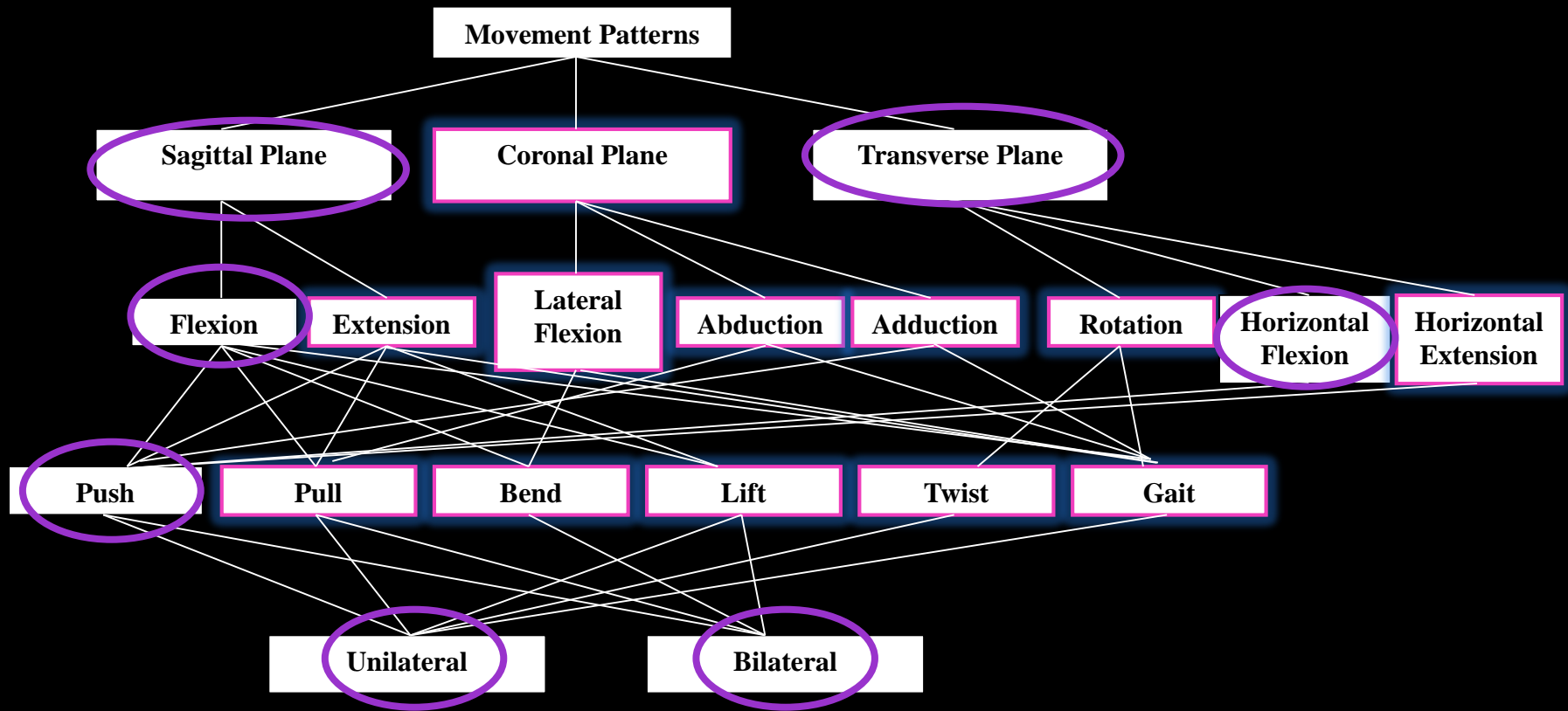
# MOT Implementation – Micro



# MOT Implementation – Micro

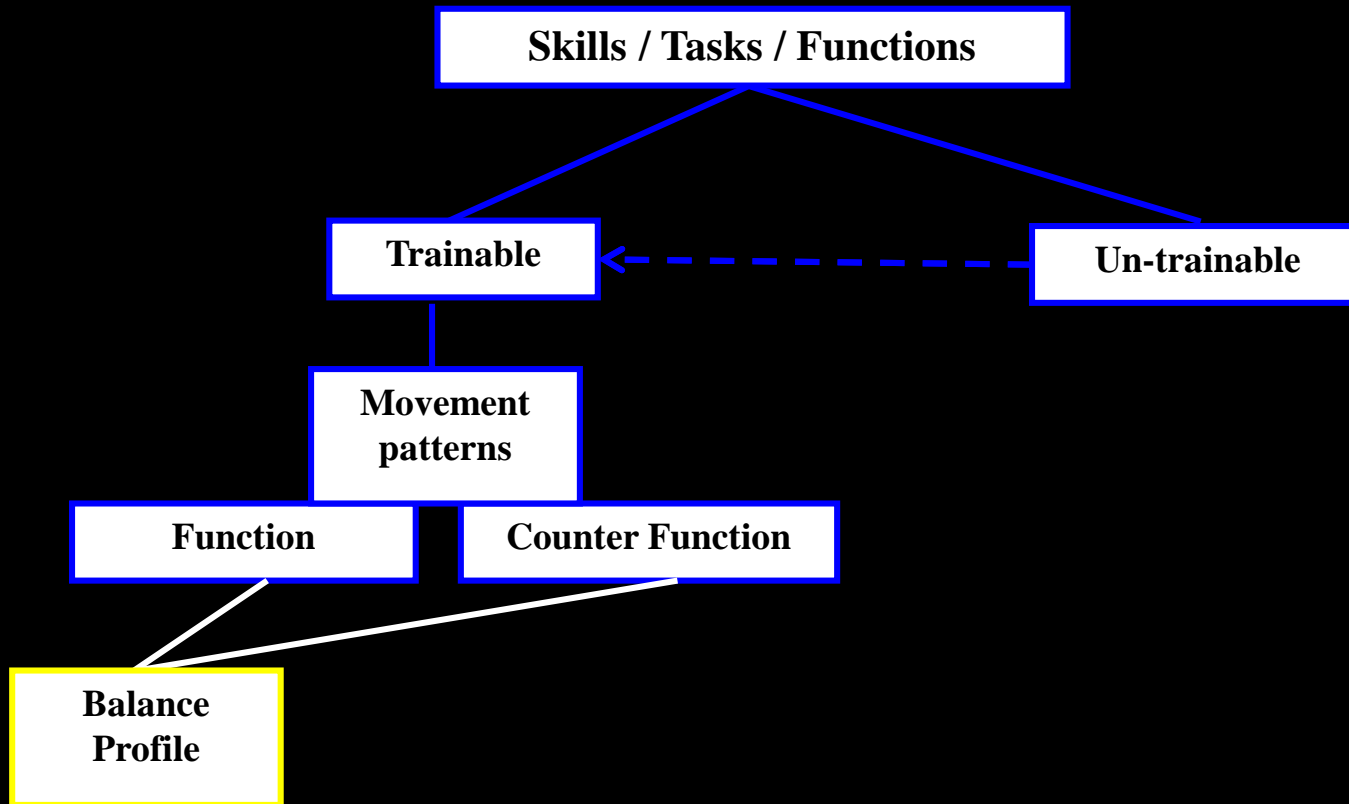


# MOT Implementation – Micro

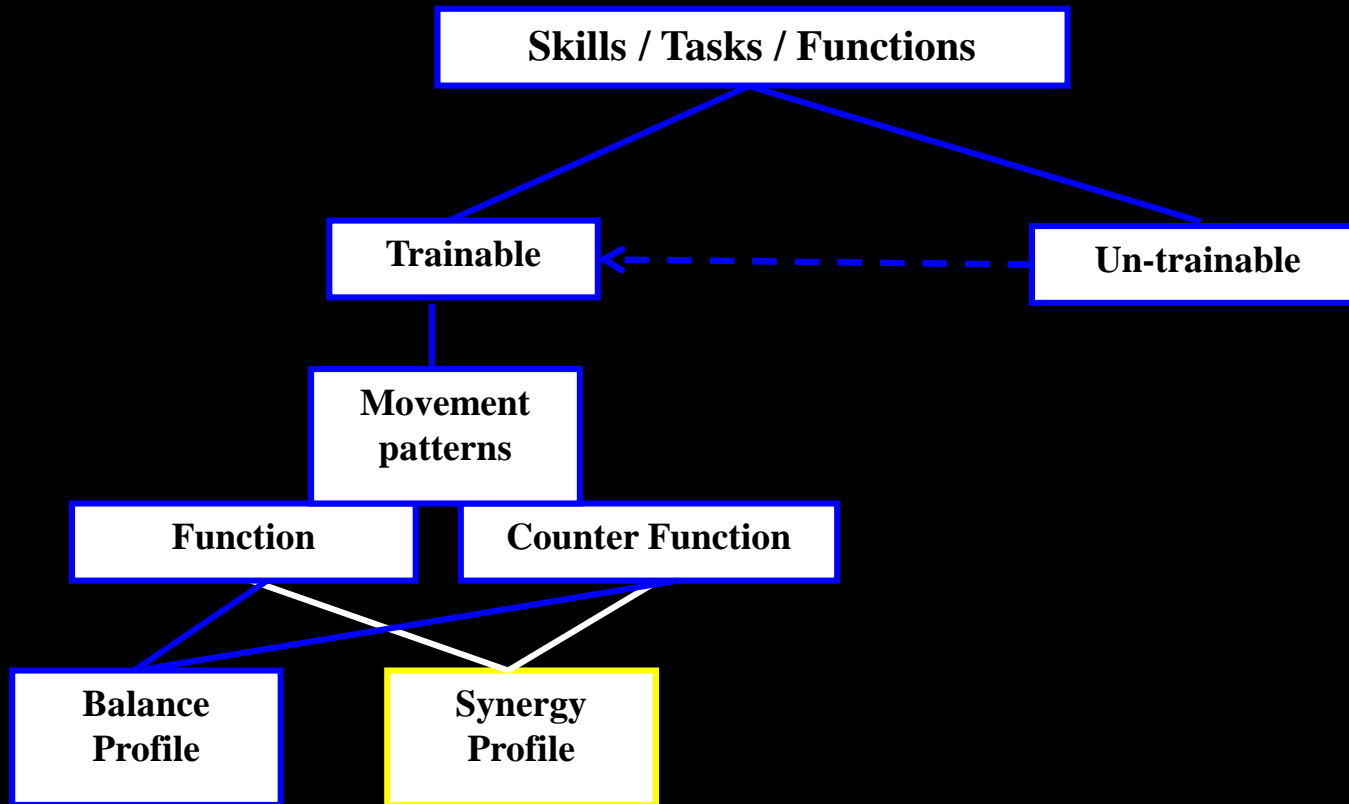




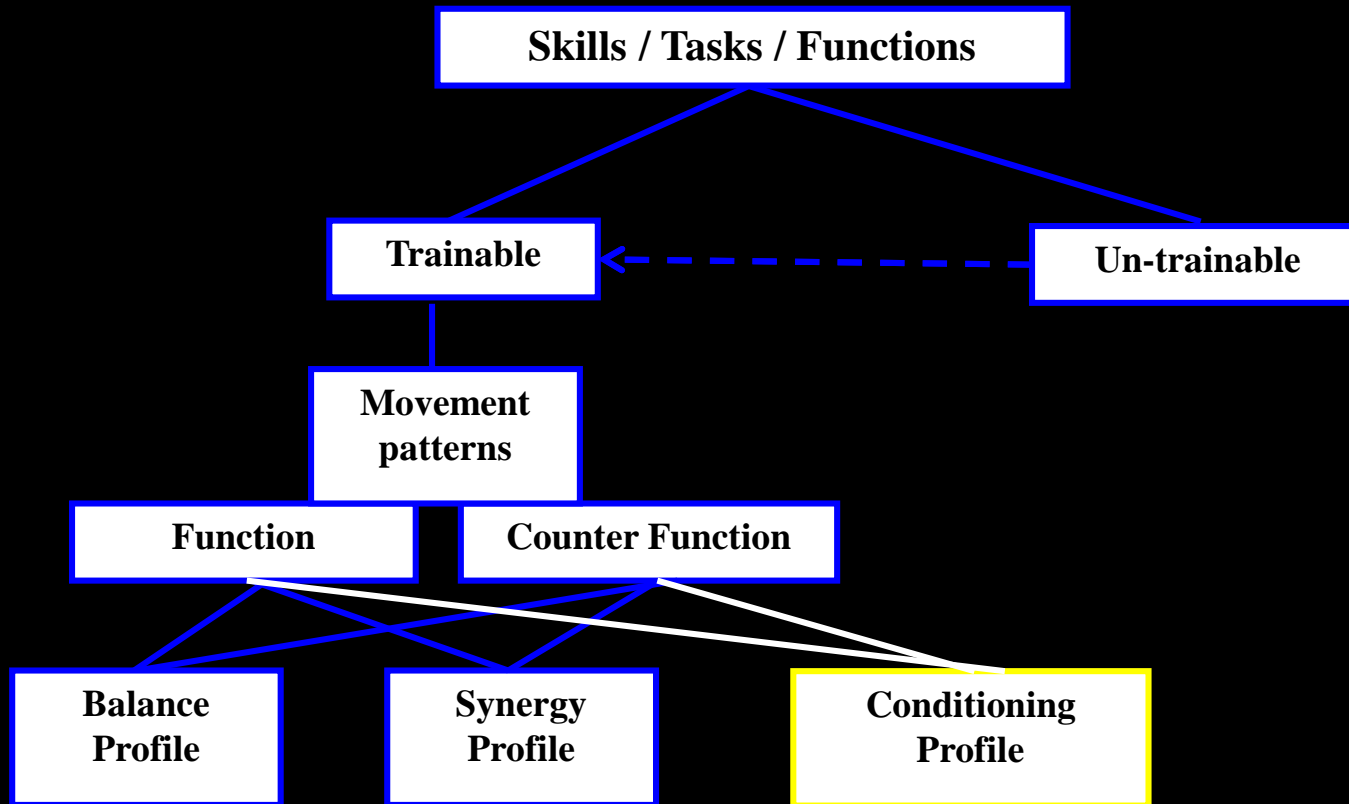
# MOT Implementation – Micro



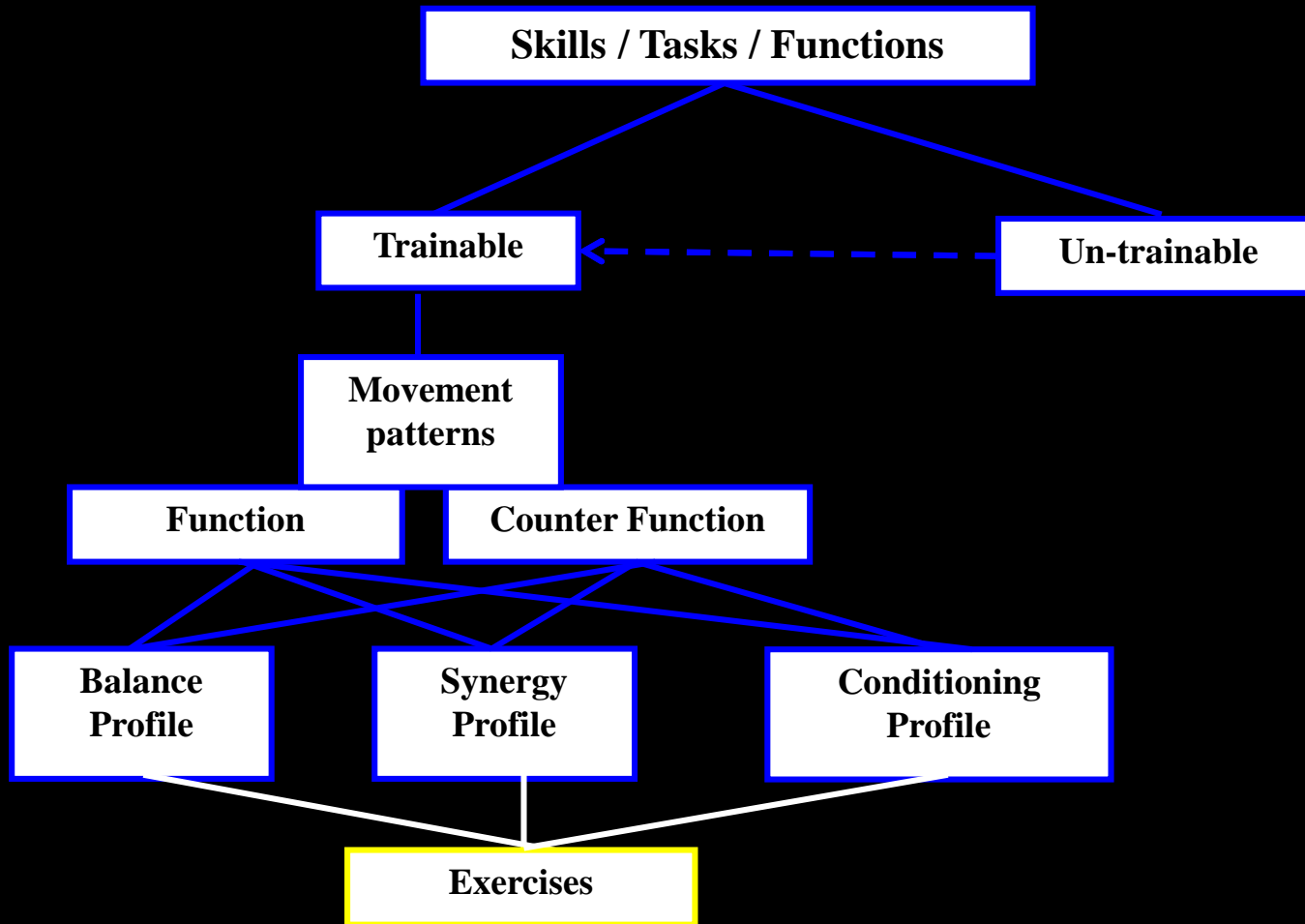
# MOT Implementation – Micro



# MOT Implementation – Micro

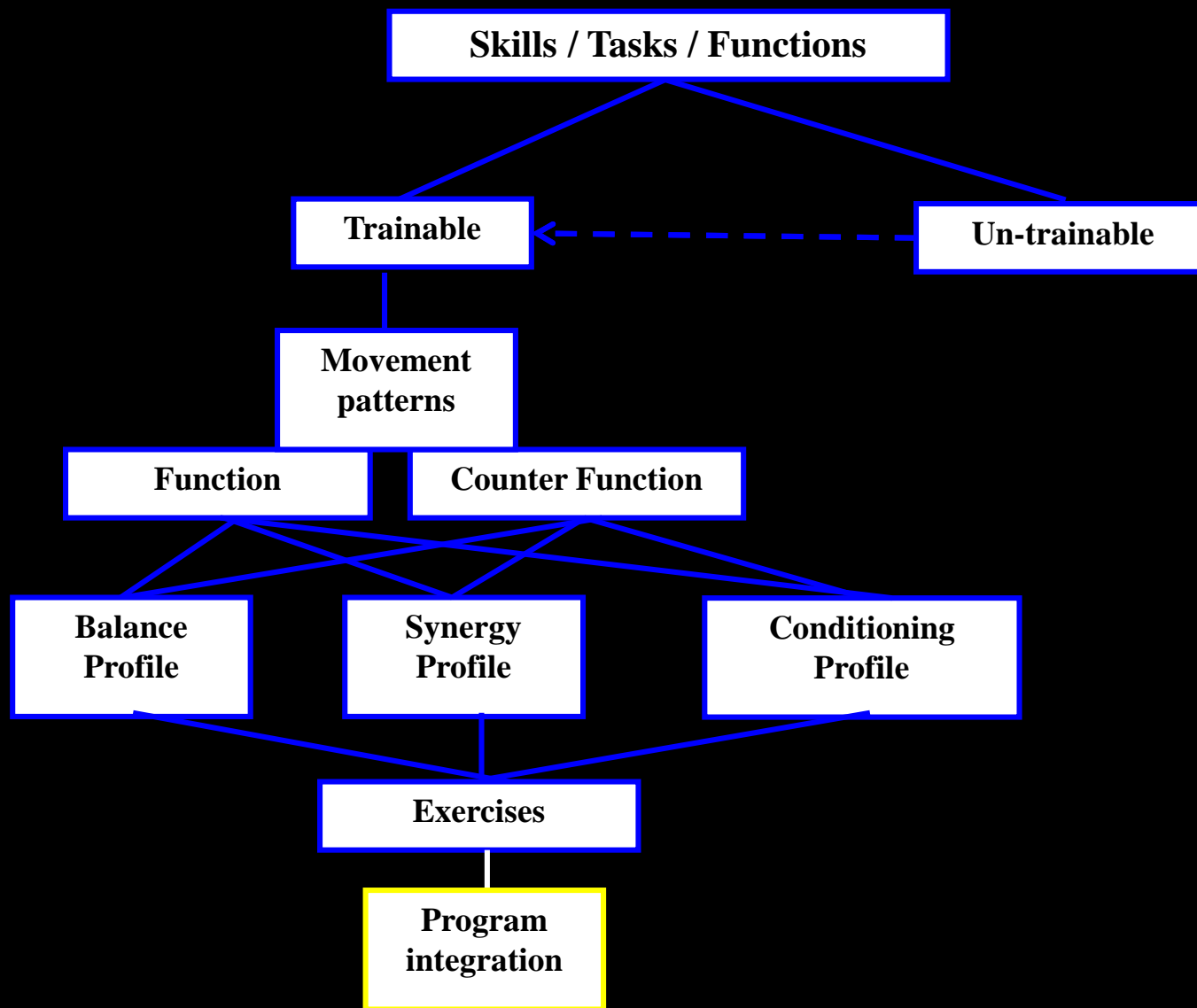


# MOT Implementation – Micro





# MOT Implementation – Micro



# MOT Implementation – Micro

## General Training – Micro



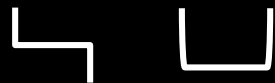






- Lunge and U/Row
- Squat and Push
- Chins
- Push Up
- Full sit up and Twist
- Running Man



G

# MOT Implementation – Micro

## Obstacle Course – Micro

- Over shoulder throw 
- Push Up / Row / Tuck Under 
- Lunge and Jump Squat 
- Chins 
- Dips 
- Quick Step / Sprint 
- Burpee 
- Pommel 
- Sit and Stand 



# MOT Implementation – Macro



# MOT Implementation – Macro

- Application
  - Unit / job task profiles
  - Unit injury profiles and risks
  - Pre-habilitation

# MOT Implementation – Macro

Unit / Job Tasks

Injury Profiling

Movement Profiles

Program Design



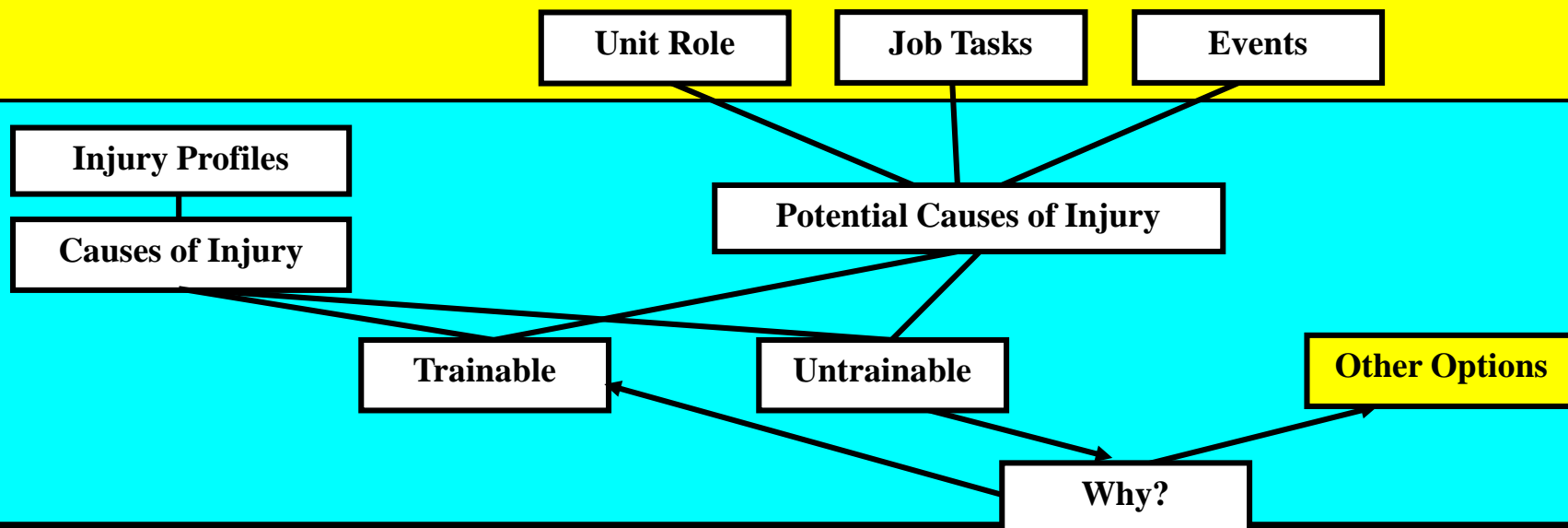
# MOT Implementation – Macro

Unit Role

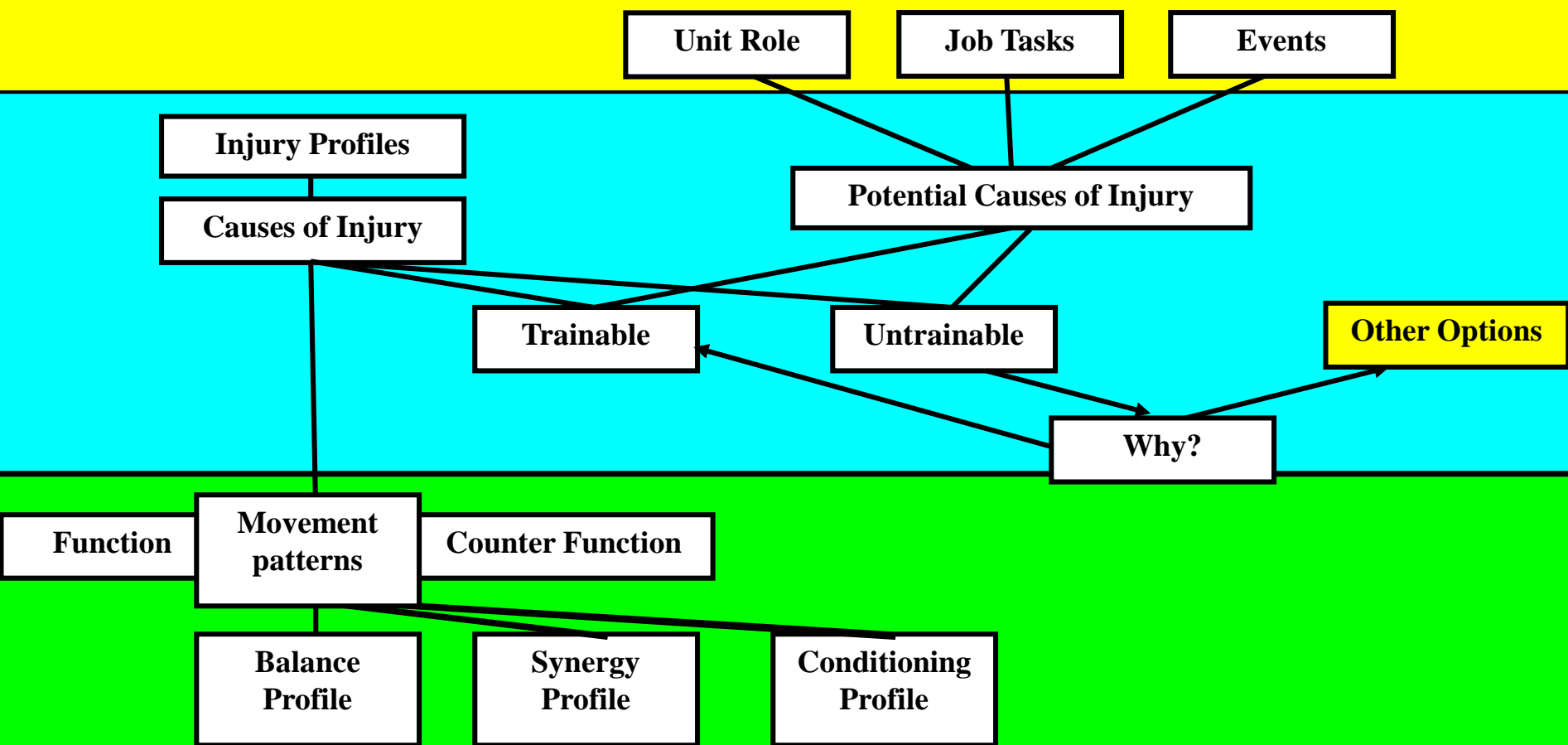
Job Tasks

Events

# MOT Implementation – Macro

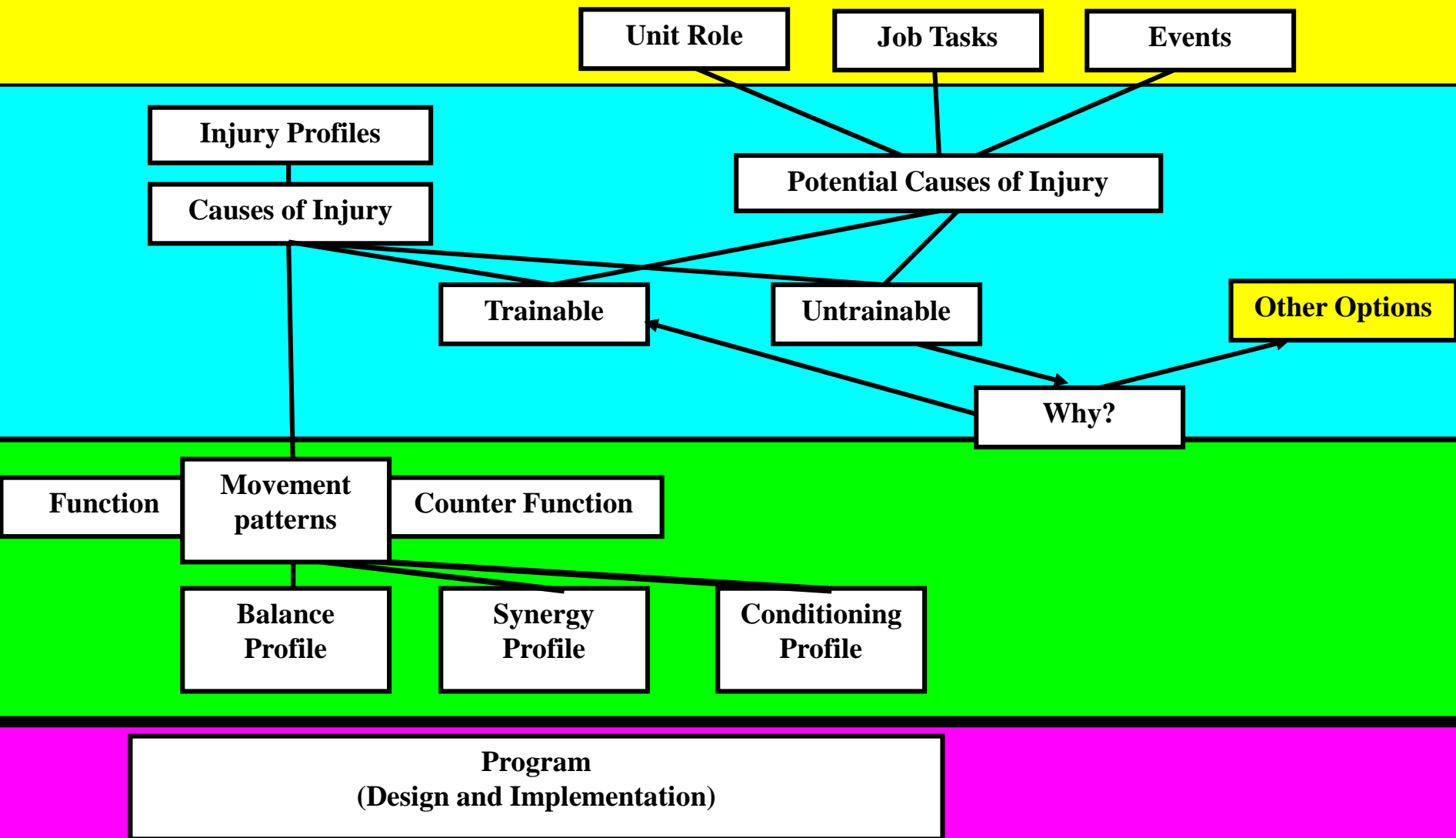


# MOT Implementation – Macro





# MOT Implementation – Macro



BODY MVT PATTERN	PARRALLEL LIFT	UNILATERAL LIFT	PULL	PUSH	BEND 1	ROTATION	SHOULDER MOBILITY	BEND & LIFT
	SQUATTING	LUNGING	PULLING	PUSHING	UPPER CORE FLEXION	SPINAL ROTATION	ARMS ROM	BENDING
LEVEL - 4	Assisted Squat	Step Up	Cable Pull	1 Arm Cable Push	Ball Sit	SB Lower Partial	Wall Mil Press	SB Prone Hip Extn
LEVEL - 3	Sit/Stand Squat	Partial	Standing Pull Up	Wall Push Up	Pendulum	SB Circling	Rotators	SB Knee Bend
LEVEL - 2	Partial Squat	Iso Partial	Incl Pull Up	Incline Push Up	Breathing Sit Up	Upper/Lower Twist	Arm Circling	SB Leg Curl
LEVEL - 1	SB Wall Squat	Static Lunge	Bent Leg Pull Up	Knee Push Up	1/4 BFA Sit Up	Grav res Upper/Lower Twist	Window Washer	Kneeling Bend
LEVEL 0	Body Squat	Step Lunge	Lying Pull Up / 1 Arm Row	Push Up	BFA Sit Up	Russian Twist	Curl / Press / Extend	Body Dead Lift
LEVEL 1	Overhead Squat	Walk Lunge	Jump Hve	Push Up Arm Extn	Full Sit Up	Seated Wood Chop	MD Power-Up and throw	Loaded Deadlift
LEVEL 2	Weighted Squat	Directional Lunge	Hve Under/G	Decline Push Up	Halo Sit Up	MB twist and pass	High Pull/Push Press	Unilateral Loaded deadlift
LEVEL 3	MB Squat Pass	Lunge Arms Extended	Loaded Hve	MB Push Up	Weighted Full Sit up	Dynamic twist and pass	MB O/H Pass	Double Extension
LEVEL 4	1 Arm O/H Squat	Lunge Rotate	Mobile Hve	Clap Push Up	Bosu Full Sit up	Diagonal Mobile Wood Chop	Upright Row Press	Triple Extension

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